# 1.0 PURPOSE AND NEED FOR ACTION

Proposed Action The proposed action of this Final Environmental Impact Statement (EIS) is to select a container system for the management of naval spent nuclear fuel after it has been examined at the Idaho National Engineering Laboratory (INEL). In addition, this EIS includes several actions which are related to the container system choice:

- Manufacturing the container system,
- Handling and transportation associated with the container system,
- Modifications at the Expended Core Facility and the Idaho Chemical Processing Plant to support loading naval spent nuclear fuel into containers for dry storage,
- The location of the dry storage at the INEL, and
- The storage, handling and transportation of special case waste associated with naval spent nuclear fuel.

Both the Department of Energy (DOE) and the U.S. Department of the Navy (Navy) are committed to removing all naval spent nuclear fuel from Idaho by 2035, pursuant to a court ordered agreement among the State of Idaho, the U.S. Department of the Navy, and the U.S. Department of Energy, discussed further below. To manage the naval spent nuclear fuel at INEL, the Navy needs to ensure its spent nuclear fuel is transported from INEL to a geologic repository or centralized interim storage site outside the State of Idaho when either would become available. The Yucca Mountain site is the only site currently authorized by legislation, specifically the Nuclear Waste Policy Act, for site characterization as a geologic repository for spent nuclear fuel, including naval spent nuclear fuel. Its suitability as a repository has not yet been determined nor has it yet been authorized by law as a location for a centralized interim storage site.

Additionally, it will be necessary to have the naval spent nuclear fuel accepted at a repository or centralized interim storage site. The naval spent nuclear fuel must be loaded into containers that meet specific government regulations for storage, transport, and possible disposal. The naval spent nuclear fuel also needs to be safely stored until it can be shipped to either a repository or a centralized interim storage site.

The Navy needs to choose among the several general types of containers that could be used for storage, shipment, and possible disposal of naval spent nuclear fuel following examination at INEL. The purpose of this EIS is to assess the environmental impacts associated with the various types of container systems to support that choice.

It should be noted that the designs of the container systems presented in this EIS are intended solely for use of naval spent nuclear fuel. The dimensions and weight of naval spent nuclear fuel assemblies would allow them to fit into the same container system as those designed and licensed by the Nuclear Regulatory Commission for civilian spent nuclear fuel; however, the structural integrity characteristics of naval and civilian spent nuclear fuel are not the same. Therefore, the ultimate

container design utilized for naval spent nuclear fuel may not be appropriate for use for civilian nuclear fuel.

Basis for Need More than 40% of the Navy's principal combatants are nuclear powered. Since 1955, U.S. nuclear powered warships have steamed safely more than one hundred million miles and accumulated over 4,600 reactor years of safe operation. Continued operation of the Navy's nuclear powered warships remains a vital element of the Navy's ability to fulfill its national security mission in support of our nation's defense.

The Navy creates spent nuclear fuel through the operation of its nuclear powered warships and training reactors. When a warship is refueled and overhauled for continued service or is defueled because it is being inactivated, its spent nuclear fuel is removed at the shipyard. Similarly, pre-examination naval spent nuclear fuel is removed from afloat and land-based training reactors when they are refueled or deactivated. In all cases, the pre-examination naval spent nuclear fuel is transported to the DOE's INEL in southeastern Idaho. At INEL, all naval spent nuclear fuel is examined at the Expended Core Facility located at the Naval Reactors Facility. This examination is essential to ensure that maximum performance and use is obtained from current naval nuclear fuel and to support the design of naval fuel with longer lifetimes. After examination, the naval spent nuclear fuel is transferred to the Idaho Chemical Processing Plant for storage in water pools pending final disposition. There are approximately 12 metric tons of heavy metal of naval spent nuclear fuel at INEL and a total of approximately 65 metric tons of naval spent nuclear fuel will exist by the year 2035.

The Navy needs to ensure that naval spent nuclear fuel, after examination, is managed in a fashion which:

- facilitates ultimate safe shipment to a permanent geologic repository or centralized interim storage site outside the State of Idaho;
- is protective of the Idaho environment while being temporarily stored at INEL; and
- complies with a court ordered agreement among the State of Idaho, DOE, and the Navy discussed below.

Idaho Agreement The settlement of the U.S. District Court action in Civil Case No. 91-00540-5-EJL (U.S. District Court, 1995) by agreement among the State of Idaho, the U.S. Navy, and the U.S. Department of Energy included funding of a dry storage container loading station and an obligation of DOE to commence moving spent nuclear fuel currently in water pool storage into dry storage by July 1, 2003. The dry storage location was to be selected after consultation with the State of Idaho and was to be at a point removed from above the Snake River Aquifer to the extent technically feasible. This EIS includes proposed actions by the Navy that would commence placing naval spent nuclear fuel into dry storage on a schedule consistent with that required of the DOE in the Idaho Agreement.

Current DOE and Navy Actions Recognizing the need to safely dispose of the materials associated with use of atomic energy for national security, DOE is allocating space available in a geologic repository for naval spent nuclear fuel. Until a geologic repository or centralized interim

storage site outside the State of Idaho (discussed in Section 2.8.2) is available, the Navy (specifically, the Naval Nuclear Propulsion Program) is committed to a number of actions to ensure uninterrupted operation of the Navy's nuclear powered fleet, including transfer of all naval spent nuclear fuel at INEL out of wet storage facilities into dry storage, completion of a Dry Cell expansion project at the Expended Core Facility, and construction of an Expended Core Facility dry storage container loading station. As discussed in detail in the following sections, the high integrity and rugged nature of naval spent nuclear fuel makes it exceptionally well-suited for safe transport, storage, and ultimate disposal after service.

Proper management and transportation of pre-examination naval spent nuclear fuel were evaluated in detail in the Department of Energy Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Final Environmental Impact Statement (DOE 1995) [referred to as the Programmatic SNF and INEL EIS].

The Planned Actions This EIS focuses on the loading, storage, and transportation of naval spent nuclear fuel and special case waste. To facilitate the Navy's decision on how to carry out the above actions, this EIS analyzes the impacts of six container system alternatives including the associated Expended Core Facility dry cell modifications, dry storage container loading station operation, potential dry storage locations at the INEL site, and transportation of naval spent nuclear fuel to a geologic repository or a centralized interim storage site.

Public Involvement. On October 24, 1994, the DOE published a Notice of Intent in the Federal Register (59 FR 53442) for a multi-purpose canister system for the management of civilian spent nuclear fuel. As part of the public scoping process, the scope of the EIS for the multi-purpose canister system was broadened to include naval spent nuclear fuel. This determination was included in the Implementation Plan whose availability was announced in the Federal Register on August 30, 1995 (60 FR 45147). However DOE has halted its proposal to fabricate and deploy a multi-purpose canister based system and has ceased preparation of that EIS.

On December 7, 1995 the Department of the Navy published a notice in the Federal Register (60 FR 62828) assuming the lead responsibility for an Environmental Impact Statement evaluating container systems for the management of naval spent nuclear fuel. The Department of the Navy assumed the lead responsibility from the Department of Energy and narrowed the focus of the EIS to include only naval spent nuclear fuel. The Department of Energy is now the cooperating agency rather than the lead agency in the preparation for this EIS.

Despite the narrowing of the focus to only naval nuclear spent fuel and the change in lead agency, the range of container alternatives being considered did not change. Thus the EIS did not require another scoping process.

In the Navy notice, interested individuals were invited to request a copy of the Draft EIS. The Navy also indicated that public hearings would be held after the Draft EIS was published and that there would be a 45-day comment period. The comment period was subsequently extended to 60 days. Issuance of the Draft EIS was announced in the Federal Register on May 14, 1996 along with the locations and dates of the public hearings. In addition to distributing the Draft EIS to those requesting it, the Navy has also widely distributed the Draft EIS to public officials, tribal officials, and state agencies in the areas affected by the Draft EIS.

As indicated in the notice, the Draft EIS did not contain a preferred alternative. This Final EIS identifies the preferred alternative as a dual-purpose canister system. It also identifies the preferred alternative for a dry storage location for naval spent nuclear fuel as either a site adjacent to the Expended Core Facility at the Naval Reactors Facility or a site at the Idaho Chemical Processing Plant at INEL.